

Before the

Federal Communications Commission

Washington, DC 20554

In the Matter of

}

}

Revision of Part 15 Rules of the Commission's

}

Rules Regarding Ultra-Wideband

}

ET Docket No. 98-153

Transmission Systems

}

Comments of Jeffrey J. Daniels, PhD

Jeffrey J. Daniels, PhD, submits these comments in response to the Notice of Proposed Rule Making (NPRM), FCC 00-163, and the request for comments on testing (performed by NTIA and others) in the proceeding referenced above. These comments address the most recent submissions provided to the FCC under this docket, including recommendations and conclusions made in submissions by others suggesting continued rule making in this proceeding and proposed changes to Part 15 rules.

I can only speak to my experience with using electrical geophysical measurement systems, and the impact that severe restrictions on the use of electromagnetic devices in the frequency range of 100 Hz-3.1 Mhz would have. Geophysics is the only way to investigate the subsurface in a non-invasive manner. The science of electrical geophysics has been developing through the research efforts of corporations and government agencies throughout the world. Millions and millions of dollars are spent on the research and application of electrical geophysical methods every year. It is amazing for me to think that government regulators could even consider regulations that would, at best, make it very difficult to conduct electromagnetic surveys for exploration, environmental, and engineering applications. It is almost inconceivable that this could happen, but it appears that some people would like to make that decision. The relative silence of the geophysical community on this issue is not from a lack of concern, rather it is because most of us feel that such an irresponsible decision is impossible, so we sit back and say nothing.

Electrical geophysics (particularly ground penetrating radar) has developed into a very sophisticated and extremely useful means to image the subsurface. It is used routinely to image the near-surface to locate buried objects, to liquid contaminants, and define geologic features. There is nothing that can be used as a substitute in the field of contaminant characterization that can take the place of electromagnetic induction (100 kHz – 1000 kHz) and ground penetrating radar (1 MHz – 3 GHz) measurements. There are few uses of UWB that are of more benefit to society than the geophysical engineering applications.

Dr. Jeffrey J. Daniels

Department of Geological Sciences

The Ohio State University

Columbus, OH 43210

e-mail: [jeff@geology.ohio-state.edu](mailto:jeff@geology.ohio-state.edu)

website: [www.geology.ohio-state.edu/~jeff](http://www.geology.ohio-state.edu/~jeff)